

AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions, and listings, of claims in the application:

- 1-2. (Cancelled).
3. (Previously Presented) The method of claim 23 wherein the gene is one of the first six enzymes in the purine pathway.
4. (Previously Presented) The method of claim 23 wherein the gene is *purF*.
5. (Previously Presented) The method of claim 23 wherein said gene is inactivated by complete or partial deletion mutation or by insertional mutation.
6. (Previously Presented) The method of claim 23 wherein the live strain is a strain of *Francisella tularensis*.
7. (Previously Presented) The method of claim 6 wherein the live strain is a strain of *Francisella tularensis* subspecies *tularensis*.
8. (Withdrawn) The method of claim 6 wherein the live strain is a strain of *Francisella tularensis* subspecies *novicida*.
- 9-22. (Cancelled).
23. (Currently Amended) A method of preventing or treating infection by a *Francisella* species, the method comprising administering to an animal an effective amount of a live strain of *Francisella* species wherein a gene that encodes an enzyme active early in the purine pathway has been inactivated, to produce a protective immune response in the animal.

24. (Previously Presented) The method of claim 23 for preventing or treating infection by *Francisella tularensis*, wherein the strain of *Francisella* species used in the method is a strain of *Francisella tularensis* subspecies *tularensis* or *Francisella tularensis* subspecies *novicida*.

25. (Previously Presented) The method of claim 23 wherein the gene is inactivated using cryotransformation.

26. (Cancelled)